

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Canceled)
2. (Previously Presented) The nucleic acid molecule of claim 11, where the nucleic acid molecule is purified from a mammal.
3. (Canceled)
4. (Canceled)
5. (Currently Amended) A nucleic acid vector comprising the nucleic acid probe of claim [4] 36 and a promoter effective to initiate transcription in a host cell.
6. (Currently Amended) A recombinant cell or tissue comprising the nucleic acid probe of claim [4] 36.
- 7-10. (Canceled)
11. (Previously Presented) An isolated, enriched, or purified nucleic acid molecule comprising a nucleotide sequence that:
  - (a) encodes a Fibroblast Growth Factor Receptor Protein Kinase Substrate 2 (FRS2) polypeptide having the full length amino acid sequence set forth in SEQ ID NO: 1;  
or
  - (b) is the complement of the nucleic acid sequence of (a).
12. (Previously Presented) A nucleic acid vector comprising a nucleic acid molecule of claim 11.
13. (Previously Presented) A recombinant cell or tissue comprising a nucleic acid molecule of claim 11.
- 14.-19. (Canceled)

20. (Previously Presented) The nucleic acid molecule of claim 11, wherein said nucleic acid molecule is fused to a nucleic acid molecule encoding a second protein.

21. (Previously Presented) The nucleic acid molecule of claim 20, wherein said second protein is selected from the group consisting of hemagglutinin, GST, maltose binding-protein, or a fragment of any one of said second proteins.

22. (Canceled)

23. (Previously Presented) The nucleic acid molecule of claim 20, wherein said nucleic acid molecule encodes a FRS2 polypeptide having the full length amino acid sequence set forth in SEQ ID NO: 1.

24 – 29 (Canceled)

30. (New) An isolated, enriched, or purified nucleic acid molecule that encodes a Fibroblast Growth Factor Receptor Protein Kinase Substrate 2 (FRS2) polypeptide, wherein said nucleic acid molecule is selected from the group consisting of:

(a) a nucleotide acid molecule that encodes a FRS2 polypeptide, wherein said FRS2 polypeptide consists of the full length amino acid sequence set forth in SEQ ID NO: 1 except that it lacks at least one, but not all, of the following segments of amino acid residues: 1-10, 11-152, or 153-508;

(b) is the complement of the nucleic acid sequence of (a);

(c) a nucleotide acid molecule that encodes a FRS2 polypeptide, wherein said FRS2 polypeptide consists of the full length amino acid sequence set forth of SEQ ID NO: 1 except that it lacks at least one, but not all of the domains selected from the group consisting of a myristylation region, a phosphotyrosine binding region, and a C-terminal region;

(d) is the complement of the nucleic acid sequence of (c);

(e) a nucleic acid molecule that has at least 90% sequence identity to the FRS2 polypeptide set forth in SEQ ID NO: 1;

(f) is the complement of the nucleic acid sequence of (e);

(g) a nucleic acid molecule that encodes a FRS2 polypeptide, wherein said FRS2 polypeptide consists of amino acid residues 1-10, 11-152, or 153-508 of SEQ ID NO: 1;

(h) is the complement of the nucleic acid sequence of (g);

(i) a nucleic acid molecule that encodes

(1) a FRS2 polypeptide having the full length amino acid sequence set forth in SEQ ID NO: 1 of a FRS2 polypeptide having the full length amino acid sequence set forth in SEQ ID NO: 1;

(2) a nucleic acid molecule of (a);

(3) a nucleic acid molecule of (f), wherein each of (1), (2), or (3) contains one or both of the following mutations: tyrosine 349 to phenylalanine or tyrosine 392 to phenylalanine; and

(j) is the complement of the nucleic acid sequence of (i),

wherein said FRS2 polypeptide encoded by the nucleic acid molecule of (a) to (j) binds to Grb-2.

31. (New) A nucleic acid vector comprising the nucleic acid molecule of claim 30.

32. (New) The nucleic acid vector of claim 31, further comprising a promoter effective to initiate transcription in a host cell.

33. (New) A recombinant cell or tissue comprising the nucleic acid molecule of claim 30.

34. (New) The nucleic acid molecule of claim 30, wherein said nucleic acid molecule is fused to a nucleic acid molecule encoding a second protein.

35. (New) The nucleic acid molecule of claim 34, wherein said second protein is selected from the group consisting of hemagglutinin, GST, maltose binding-protein, or a fragment of any one of said second proteins.

36. (New) A nucleic acid probe for the detection of nucleic acid molecules encoding a Fibroblast Growth Factor Receptor Protein Kinase Substrate 2 (FRS2) polypeptide comprising of a nucleic acid molecule that encodes an amino acid sequence consisting of a fragment of SEQ ID NO: 1 comprising at least 10 contiguous amino acids or the complement thereof.

37. (New) The nucleic acid probe of claim 36, wherein said fragment comprises at least 15, 20, 25, 30, 35, 40, 50, 100, 200, 300, 500, or 508 contiguous amino acids or the complement thereof.

37. (New) A nucleic acid vector comprising the nucleic acid probe of claim 37 and a promoter effective to initiate transcription in a host cell.

39. (New) A recombinant cell or tissue comprising the nucleic acid probe of claim 37.